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CONFIDENTIAL 21 November 1956 J

MEMORANDUM FOR THE RECORD

SUBJECT: Visit with [] on Portable Hydrogen Generator 25X1

1. On 13 November 1956 the undersigned met with [] at his laboratory at [] for the purpose of reviewing the progress on the lithium hydride portable hydrogen generator which he has been working on. 25X1

2. As was agreed at the previous meeting, [] built a small scale generator using the "water pump" principle which he had earlier suggested. A sketch of this generator is enclosed. 25X1

[] chose 300 grams of LiH (sufficient to generate 30 cubic feet of hydrogen) and a 2 liter flask for the generator. 25X1

3. [] demonstrated the generator in a swamp in the vicinity. The generator needed to be primed, but once generation was begun it was self-sustaining except for an occasional need to open up the control valve. Foaming occurred but did not appear to be excessive except at the beginning and very end of the run--and even here the quantities did not seem to be excessive. 25X1

The "water pump" system worked on a surge basis, rather than continuous flow. Occasional over-surfing would cause the hydrogen to be lost out the bottom of the pump. [] suggested that a mantle could be built to collect any gas thus lost and manifolded to the main line. Generation time was about half an hour. 25X1

4. At the conclusion of the demonstration it was pointed out that not only did the generation of hydrogen have to be self sustaining but also for the most part, self controlling. [] recognized this and stated that he thought this could be arranged. 25X1

Plans for continuing the program were agreed to as follows:

A. With the two-liter generator tests will be run to:

- 1) determine the effect of water temperature on the rate
- 2) determine the temperature in the generator and of the off-gas
- 3) see if an explosion or fire can be induced by running the generator wide-open and uncontrolled.

B. A 24 liter generator of the same design shall be made to get an idea of what problems are likely to be introduced by scaling.

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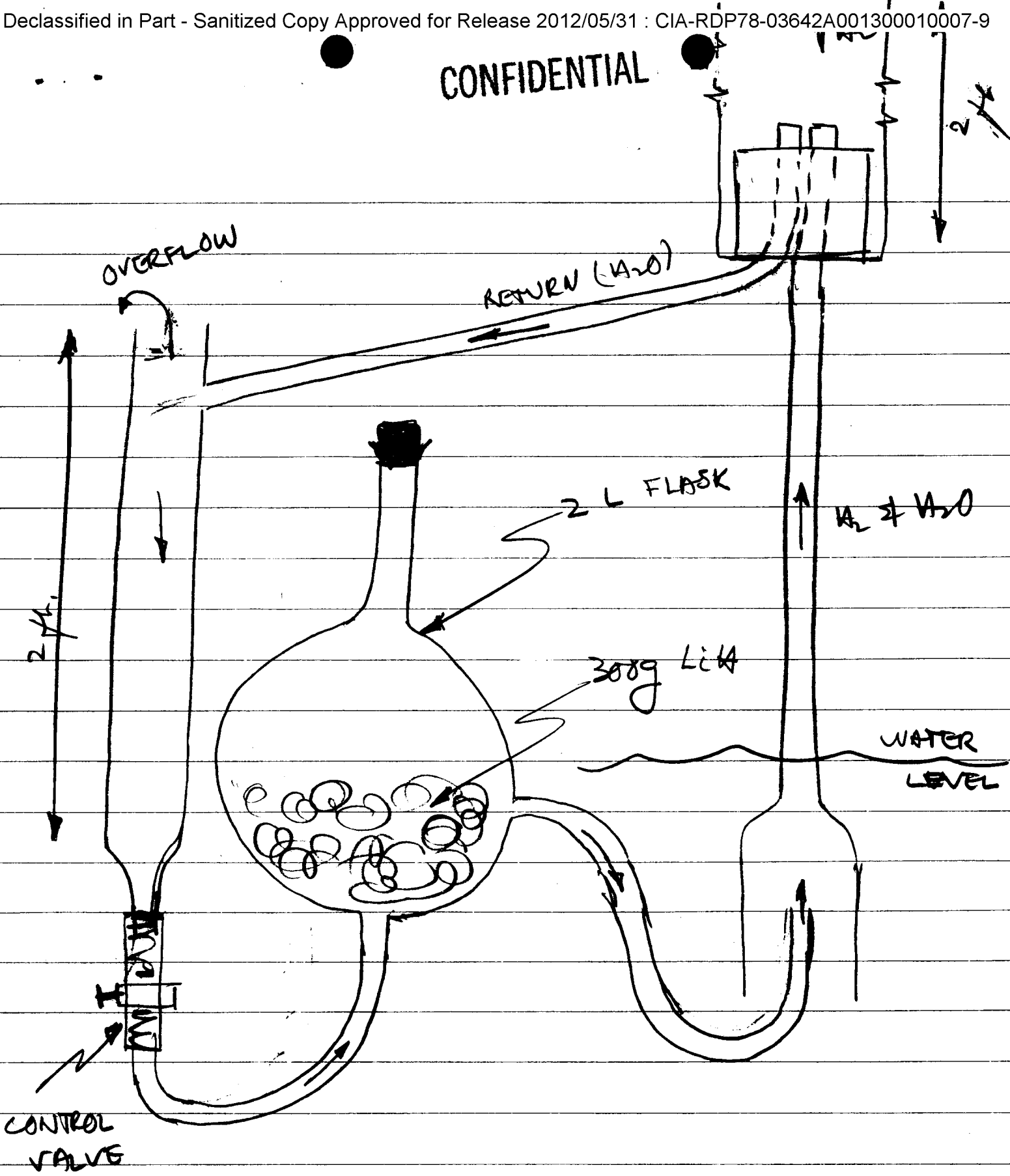
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Attachment:

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